

REMARKS

Favorable reconsideration of this application as presently amended is respectfully requested. Claims 1 through 17 are pending. In this Amendment, claims 2 and 3 are canceled, claims 1 and 4 through 16 are amended, and claim 17 is added. No new matter is added.

Support for the amendment to claims 1 and 4 through 9 is found, *inter alia*, in the specification at page 4, paragraph 22, in FIGS. 1A and 1B, as well as elsewhere in the originally filed specification, drawings, and claims. Support for the amendment to claims 10 through 16 is found, *inter alia*, at page 4, paragraph 22, at page 5, paragraph 23, as well as elsewhere in the originally filed specification, drawings, and claims. Support for the added claim 17 is found, *inter alia*, at page 4, paragraph 22, and at page 5, paragraph 23.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,836,810 to *Asum*. This reference fails to teach the currently claimed invention. Claim 1 has been amended to further clarify the invention. In particular, claim 1 clarifies, *inter alia*, the relationship of the second and third zones, on a first face, that are abrasive and opposite to each other with respect to a first smooth zone, and a fourth zone that is abrasive on the second face of the interproximal strip. This relationship is not taught by *Asum*. This rejection is now moot with respect to the claim as currently presented, and Applicant requests that the rejection be withdrawn.

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,836,810 to *Asum* in view of U.S. Patent No. 6,386,873 to *Blank*. The rejection of claim 2 has been rendered moot by the cancellation of this claim.

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,836,810 to *Asum* in view of U.S. Patent No. 6,386,873 to *Blank*, and further in view of U.S. Patent No. 4,690,642 to *Kyotani*. The rejection of claim 3 has been rendered moot by the cancellation of these claims.

Claims 4 through 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,836,810 to *Asum* in view of U.S. Patent No. 6,386,873 to *Blank*, and further in view of U.S. Patent No. 4,690,642 to *Kyotani*. The rejection of claims 4 through 16 is respectfully traversed with respect to the claims as currently presented.

“The prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure.”¹

Assuming the propriety of combining *Asum*, *Blank* and *Kyotani*, the invention as claimed is still not taught by such a combination. Independent claims 1 and 10 recites, *inter alia*, “an interproximal strip comprising a plurality of zones... comprising at least [four] zones,” where the first zone is “disposed centrally... and is substantially smooth”, where the second and third zones that are abrasive are on a first face of an interproximal strip, and a fourth zone that is abrasive is on a second face.

Asum teaches an abrasive interproximal strip having an elastic portion which is positioned in the mouth and remains relatively still as the other end of the strip that is outside the mouth is pulled outward. That elastic portion pulls the strip back in, hence the “reciprocating movement.”² FIG. 7 of *Asum* teaches having an abrasive surface on both sides of the strip. *Asum* also teaches that the abrasive strip may have, “one window without abrasive layer for insertion between the teeth.”³

Blank teaches a device for removing solidified dental material from the surface of, or from between, teeth during restorations.⁴ The shape of the disclosed invention, which includes a mounted blade member, provides for easier use and control, as well as the ability to better see the surfaces being worked on.⁵ *Blank* teaches that its blade member

¹ See MPEP, 706.02(j).

² See *Asum*, col. 2, ll. 36-42, 56-59.

³ See *Asum*, col. 3, ll. 58-59.

⁴ See *Blank*, Abstract.

⁵ See *Blank*, col. 1, ll. 39-49.

may have “serrated teeth such as a saw blade”, and may be “abrasive on one side, or both sides.”⁶

Combining the teachings of *Blank* with those of *Asum*, with respect to the orientation of various abrasive and smooth areas on an interproximal strip, teaches no more than what *Asum* already teaches, which is that there may be abrasive on one or both sides, with one smooth “window” in the center. This teaching is not the same as what is being claimed in the present application, namely an interproximal strip with, *inter alia*, at least two abrasive zones on one side and at least one abrasive zone on the other side. Therefore, the combination of *Asum* and *Blank* do not teach or suggest the claimed invention as currently presented.

Further, Applicant submits that the invention as currently presented is not taught by the combination of *Asum*, *Blank* and *Kyotani*. *Kyotani* teaches a dental polishing strip constructed of shape-memory alloy.⁷ *Kyotani* teaches various structures such as holes, files and abrasive grains, and the combinations thereof, to form a polishing surface.⁸ *Kyotani* teaches having different polishing structures on the same side, or having different polishing structures on different sides.⁹

Combining the teachings of *Kyotani* with those of *Asum*, with respect to the orientation of various abrasive and smooth areas on an interproximal strip, still does not teach what is claimed in the instant application. Combining the teachings of *Kyotani* with the teachings of *Asum* and *Blank* would result in an interproximal stripper having different abrasives on the same side or different sides, or having abrasives on both sides. However, it fails to teach an interproximal stripper which has, *inter alia*, at least two abrasive zones on one side and at least one abrasive zone on the other side. As disclosed in the specification of the instant application, having these zones permits, *inter alia*, the creation of interproximal space, and then the enlarging of that created space, without removing the interproximal strip surfaces being abraded. None of the cited references, alone or in proper

⁶ See *Blank*, col. 4, ll. 1-3.

⁷ See *Kyotani*, Abstract.

⁸ See *Kyotani*, Abstract.

⁹ See *Kyotani*, FIGS. 4 and 6.

combination, would permit such a use. Therefore, even assuming a proper combination of *Asum*, *Blank* and *Kyotani*, those references fail to teach or suggest what is being claimed by the claims, as amended, of the instant application. As the combination of the cited references do not teach or suggest the claimed invention as currently presented, Applicants respectfully urge that this rejection be withdrawn.

The Office Action states that, "It would have been obvious to one of ordinary skill in the art to modify *Asum* to include using abrasive on more than one side as shown by *Blank*, and further, to use different degrees of abrasive on different sides as shown by *Kyotani* in order to apply the desired degree of abrasive to the desired locations. The specific number of different degrees and their locations are obvious matters of choice in the degree and location of known structures to one of ordinary skill in the art."¹⁰ As stated by the Federal Circuit, "[d]etermining whether there is a suggestion or motivation to modify a prior art reference is one aspect of determining the scope and content of the prior art, a fact question subsidiary to the ultimate conclusion of obviousness."¹¹ The Federal Circuit also stated that specific reasons must be shown in the art suggesting a combination of references.¹² This combination of *Asum*, *Blank* and *Kyotani* is *prima facie* improper because the Office Action has cited no portion of *Asum* that would supply a person of ordinary skill in the art with a motivation to combine the teachings of *Asum* with the teachings of *Blank* and/or *Kyotani*. Therefore the combination of *Asum* with *Blank* and/or *Kyotani* is *prima facie* improper, and should therefore be withdrawn.

With respect to claims 4 through 16, since the office action fails to supply the motivation to combine, these claims have been rejected on the basis of facts within the personal knowledge of the Examiner. Accordingly, under 37 C.F.R. § 1.104(d)(2) the Applicants hereby request that the Examiner provide an affidavit supporting the Examiner's

¹⁰ See Office Action, page 3.

¹¹ See *Sibia Neurosciences Inc. v. Cadus Pharmaceutical Corp.*, 55 USPQ2d 1927, 1931 (Fed. Cir. 2000) (citing *Tec Air, Inc. v. Denso Mfg.*, 52 USPQ2d 1296, 1297-98 (Fed. Cir. 1999) (stating that the factual underpinnings of obviousness include whether a reference provides a motivation to combine its teachings with another)).

¹² See *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed."); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("[E]ven when the

assertion used as a basis for this rejection, or, in the alternative, to withdraw the rejection of claims 4 through 16.

For the above reasons, claims 4 through 16 are patentable over the improper combination of *Asum* with *Blank* and with *Kyotani*. Therefore, Applicant respectfully requests that the rejection be withdrawn.

Claims 4 through 9 depend directly or indirectly from independent claim 1, and, accordingly, include all of the patentable features of claim 1 as well as other patentable features. Therefore, claims 4 through 9 are patentable over the combination of *Asum* with *Blank* and *Kyotani* for at least the reasons discussed above with respect to claim 1.

Claims 11 through 16 depend directly or indirectly from independent claim 10, and, accordingly, include all of the patentable features of claim 10 as well as other patentable features. Therefore, claims 11 through 16 are patentable over the combination of *Asum* with *Blank* and *Kyotani* for at least the reasons discussed above with respect to claim 10.

If the Examiner has any questions or concerns regarding the present response, the Examiner is invited to contact Ajay A. Jagtiani at 703-591-2664, Ext. 2001.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance, and favorable action is respectfully solicited.

Respectfully submitted,



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level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination."